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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,997	11/04/2003	Girolamo Gallo	400.195US01	5619
27073	7590	04/19/2005	EXAMINER	
LEFFERT JAY & POLGLAZE, P.A. P.O. BOX 581009 MINNEAPOLIS, MN 55458-1009			LE, DON P	
			ART UNIT	PAPER NUMBER
			2819	

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/700,997

Applicant(s)

GALLO ET AL.

Examiner

Don P. Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-17, 19-25 and 28-39 is/are allowed.
- 6) ☒ Claim(s) 1, 6-8, 18 and 26 is/are rejected.
- 7) ☒ Claim(s) 2-5 and 27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6/25/04
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 6, 7 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Bianchi (US 5,122,690).

3. With respect to claim 1, figure 2 of Bianchi teaches an output buffer for a semiconductor device, comprising:

a driver stage comprising one or more drive transistors (PL, NL, PS, NS);

a pre-driver stage (24, 26) coupled to the driver stage; and

a feedback circuit (34, 46) to dynamically control output buffer impedance in response to a load condition.

4. With respect to claim 6, figure 3 of Bianchi teaches a programmable interconnect (circuit is controlled to turn either P or N transistors ON/OFF) to calibrate a rate of change in a signal level input to a pull-up or pull-down section of the output buffer.

5. With respect to claim 7, figure 3 of Bianchi teaches the output buffer further comprises a programmable interconnect to selectively configure the output buffer for operation at a predetermined supply voltage range (VDD is typically set at 5V or could be lower such as 3.3V).

6. With respect to claim 26, the apparatus of Bianchi as discloses teaches the claimed method given that the parallel pull-up and pull down transistors controlled the output logic level.

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7. Claim 18 is rejected under 35 U.S.C. 102(b) as being anticipated by Ogawa et al. (USA 5,804,987). Figure 1 of Ogawa discloses an apparatus comprising:

A non-volatile memory array (RAM);

An output buffer (51) coupled to the memory;

At least one programmable interconnect (6) to selectively configure the output buffer to operate at a predetermined supply voltage range.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bianchi (US 5,122,690). Bianchi does not specifically state the connections are made by masked option. However, mask option is well known in the art for the purpose of making connection of electrical components to form circuitry. It would have been obvious to one of ordinary skill of art at the time the invention was made to have to have connected the circuitry of Bianchi with metal mask option for the purpose of making connection as a design choice.

Allowable Subject Matter

10. Claims 9-17, 19-25 and 28-39 are allowed.

11. Claims 2-5 and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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12. The following is an examiner's statement of reasons for allowance:

With respect to claims 2, 9, 12, 19, 27, 28, 31 and 12, the prior art does not teach a feedback circuit having cascode connected drive transistors.

With respect to claim 39, the prior art does not teach a method having a pull down stage of a level shifter of an output buffer to have a first size of a first power supply and a second size for a second power supply.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

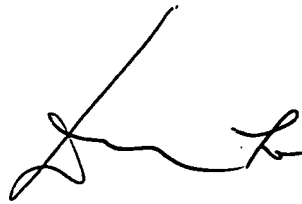
13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Don P. Le whose telephone number is 571-272-1806. The examiner can normally be reached on 7AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael J. Tokar can be reached on 571-272-1812. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

4/15/05

A handwritten signature in black ink, appearing to read 'DON LE', with a stylized flourish at the end.

DON LE
PRIMARY EXAMINER